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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,224	11/12/2003	Steven T. Fink	071469-0305806	3532
909	7590	03/07/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			MACARTHUR, SYLVIA	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			1763	
DATE MAILED: 03/07/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/705,224	Applicant(s) FINK ET AL.	
	Examiner Sylvia R. MacArthur	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1,3-5 9-14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakayam Hiroyuki (JP 2002-2522209- using the English Translation).

Regarding claims 1 and 16: Horyuki teaches a plasma etching chamber comprising a substrate holder 8, a baffle plate 12, and a centering ring 13, see Fig. 1.

Regarding claims 3-5: The centering ring 13 comprises a centering feature to center the plate onto the ring see Fig.1. The centering feature is a receptacle, mating feature is an edge see Fig. 1

Regarding claims 9-13: Hiroyuki teaches that the baffle plate has a protective barrier wherein this coating is formed by spraying. It is noted that the method of coating is also a

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process limitation and does not have patentable weight as the coating of Hiroyuki could have been formed by any of the methods listed in claim 11, [0028]. Yttria and YF3 are listed as materials of construction.

Regarding claim 14: The one or more passageways of the baffle 12 are orifices see Fig. 1.

3. Claims 1, 6-8, and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomoyasu et al (US 6,264,788).

Regarding claims 1 and 16: Tomoyasu et al teaches a plasma apparatus comprising a baffle plate 226 assembly surrounding a substrate holder 305 in a plasma processing system comprising: a centering ring 325 coupled to the substrate holder 305 wherein a portion of the ring extends radially outside a periphery of the holder and a the baffle plate has a plurality of gas passageways, see Fig. 8. The baffle plate is configured to be centered within the plasma processing system by coupling the plate to the portion of the ring that is outside the periphery of the holder, see col. 11 lines 5-47.

Regarding claim 6: The baffle plate features a mating feature which a centering edge see Fig. 8.

Regarding claim 7: The ring is made of Al according to col. 11 lines 5-19.

Regarding claim 8: Col.12 lines 47-65 teaches that the baffle plate is made of aluminum.

Regarding claim 14: A plurality of holes (orifices) are in the baffle plate see col. 11 lines 5-19.

Regarding claim 15: The size of these holes changes according to col.12 lines 26-67.

4. Claims 1, 8, and 14- 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Li et al (US 6,506,685).

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Regarding claims 1 and 16: Li et al teaches a perforated plasma confinement ring in plasma reactors. The apparatus comprises a baffle plate 222 assembly surrounding a substrate holder in a plasma processing system comprising: a centering ring 216 coupled to the substrate holder 210 wherein portion of the ring extends radially outside a periphery of the holder and the baffle plate has a plurality of gas passageways. The baffle plate is configured to be centered within the plasma processing system by coupling the plate to the portion of the ring that is outside the periphery of the holder. See Fig. 3 and col. 5 and 6.

Regarding claim 8: SiC is used to construct the baffle plate according to col. 6 lines 8-27.

Regarding claims 14 and 15: The baffle plate feature a plurality of perforations that vary in size and are slots according to col.6 lines 41-65.

5. Claims 1, 7-13, 16, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Luvdiksson et al (US 2005/0041238).

Regarding claims 1 and 16: Luvdiksson et al teaches a substrate holder 30, a centering ring 61 (62), and baffle plate 64. Fig. 1 illustrates that the centering ring extends beyond the edge of the holder.

Regarding claim 8: The baffle plate is made of Al according to [0057].

Regarding claims 9-13: [0081] and [0082] teaches that a coating is used on the baffle plate. The materials of construction are listed in [0081], spray coating is amongst the methods used to perform the coating of the barrier layer. It is noted that the method of

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coating is also a process limitation and does not have patentable weight as the coating of Hiroyuki could have been formed by any of the methods by Luvdiksson et al.

Regarding claim 17: Baffle plates and centering rings are listed amongst the consumable replaceable components in the chamber, see [0056] and [0057].

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroyuki or Tomoyasu et al or Li et al or Luvdiksson et al (known henceforth as the primary prior art) in view of Kanno et al (US 6,646,233).

The teachings of the primary prior art were discussed above.

All fail to teach a fastener used to couple the centering ring to the holder.

Kanno teaches a plasma reactor with a holder 14 and a ring 75. Fig. 2 illustrates bolt 36(fastener) to couple the ring to the substrate holder. The motivation to provide the fastener of Kanno to couple the holder and rings of the primary prior art is that these bolts are suitable means of fixing the ring to the holder according to col.8 lines 13-23. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to provide the bolts of Kanno in the primary prior art to fix the rings to the substrate holders in these plasma apparatus.

Response to Arguments

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8. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

The amendment to claims 1 and 16 requiring that the ring extend beyond the edge of the substrate required the introduction of the primary prior art which all teach a centering ring extending radially outside the periphery of the substrate holder.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

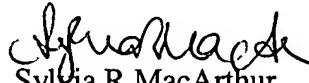
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-F during the hours of 8:30 a.m. and 5 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sylvia R MacArthur
Patent Examiner
Art Unit 1763

March 2, 2006

p.l
PARVIZ HASSANZADEH
SUPERVISORY PATENT EXAMINER